

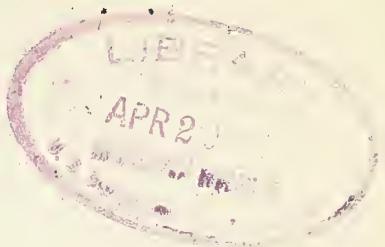
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# SOIL CONSERVATION SERVICE NEWS

REGION 4



COMPRISING STATES OF LOUISIANA, ARKANSAS  
AND TEXAS, EXCEPT HIGH PLAINS AREA

REGIONAL OFFICE--FORT WORTH, TEXAS

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## NOTES CONCERNING MEETING OF REGIONAL BIOLOGISTS IN WASHINGTON, FEBRUARY 9-12

By

Homer G. Towns, Regional Biologist, Region 4.

Dr. H. H. Bennett, Chief, Soil Conservation Service: "Valuable wildlife populations more or less associated with agricultural lands since white man began farming in this country are being sadly depleted. Some forms of wildlife already have become extinct and the lives of other forms are greatly endangered. It is realized by those who are thinking ahead in regard to proper land use that practices which must be employed in a program for soil and water conservation and proper land use offers an unparalleled opportunity for improving wildlife habitats."

"Since the application of wildlife management practices on farm lands is such a new subject one of the most difficult tasks affecting this phase of the complete program has been to sell the technical men of the Service on its value."

"Farmers for the most part are extremely interested in maintaining large populations of the valuable forms of wildlife on their farms."

"Leaders in the field of wildlife conservation have realized that if we are to preserve our wildlife populations we must recognize a practical land use program which will include provisions for whatever wildlife species that are native to a designated area. The program recommended by the Soil Conservation Service offers an unparalleled opportunity to prove that wildlife populations, such as small game birds, fur bearers, song and insectivorous birds, can be maintained on farm lands."

"The public, in general, has begun to realize that if we are to continue to have hunting for anyone except the privileged few, we must begin to apply wildlife management practices on farm lands."

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J. F. Preston, Head, Section of Woodland Management: "We are now following a new course-- from soil depletion to soil conservation. There are several ways to accomplish the job of soil conservation. Either the engineer, the agronomist, the forester or the biologist could apply protective measures that would safeguard the soil in any given section of the country, but the inhabitants of that section would not realize the greatest economic return from their land if they followed the recommendations of any one technical group."

"The program prescribed by the Service has variety and balance and it takes the coordinated efforts of technicians in each section to get the proper program established."

"The biologist should add the finishing touch to the complete program. By so doing the program can be made more complete from the standpoint of erosion control and at the same time make the rural community a much better place in which to live."

E. J. Utz, Head, Erosion Control Practices Section: "Until recent years clean fence rows and straight rows were signs of a good farmer. Now we know that straight rows on the farm is a serious mistake. Clean fence rows also are a mistake, no doubt. The Soil Conservation Service program is far removed from the straight row idea and there is every reason to believe that it should be away from the clean fence row idea. Fence rows should be protected as well as other small corners and out of the way spots on the farm. The wildlife section should be selective in the vegetation recommended for planting protection along fence rows and other small areas on the farm valuable as wildlife refuges."

"Wildlife areas should be so situated that they will make possible a greater use of all other management practices. The thing we are striving for is a balanced program for erosion control. Wildlife should fill in to make the program more complete, but should be balanced with other practices. In working out the proper balance we must give consideration to types of farming, economic and financial aspects and the outlook and aspirations of the individual farmer-- consideration for the human element involved."

"Insofar as is possible and practical the entire farm should be habitable for some of the desirable forms of wildlife, but the farm should not be considered as a wildlife refuge. The farmer must also make a living."

"Farmers usually have an appreciation for the wildlife populations either because of their actual monetary value or because the enjoyment derived from just having birds around the place. Many farmers place a monetary value of as much as \$25 on each covey of quail on their land. General statements with regard to any phase of the program are worth little. Specific instructions and recommendations should be given to the wildlife phase of each agreement."

"The biologist should have a definite place in educational programs. The technical staff should be informed of the value of wildlife populations and acquire an appreciation of this phase of the program. Farmers must be given information regarding the food and cover requirements of wildlife and shown how to meet and maintain those requirements on farm lands. The biologist can show how cover crops, strip crops, forestry and range management practices can improve conditions for encouraging wildlife."

#### SCS OBSERVES NATIONAL WILDLIFE RESTORATION WEEK

Due to the fact that the establishment of vegetative cover on farms to prevent soil and water losses is so definitely related to the conservation of wildlife, inasmuch as this cover for the soil also is cover and food for game and birds, the camps and projects of the Soil Conservation Service in Region 4 participated almost 100 percent in various programs arranged to focus attention on the problem of preserving wildlife during National Wildlife Restoration Week, March 20 to 27.

The contribution of the Service to observance of this week was varied. Many of the meetings held to discuss ways and means of perpetuating wildlife populations were conducted in Soil Conservation Service projects and CCC camps, and were sponsored by game protective associations composed of farmers in the areas, soil conservation associations, groups of sportsmen, boy scouts and farm club boys. A representative group of SCS and CCC technicians spoke at various meetings attended by those interested in wildlife conservation.

During the week set aside to bring concerted public attention to the problem of taking the necessary steps to perpetuate small game and birds, speakers have emphasized the fact that almost all of the soil conservation practices being put into effect on lands of cooperating farmers contribute directly or indirectly to the well being of wildlife populations. Wildlife populations reciprocate by proving to be of definite good to the farmer, by destroying insects harmful to crops.

There are any number of areas on the average farm not suited for cultivation which can be developed into havens to provide food and cover for wildlife. There is, for instance, on one side of a cultivated field a small area which is too steep for profitable or safe cultivation. It is badly eroded and has soil which is easily eroded. Of first importance to the farmer is the process of getting this area under vegetative cover to prevent further washing of soil on to his productive fields. By planting grasses, vines or trees, erosion control will be effected. But more than this, there is provided a potential breeding place for wildlife. Vines and grasses will blend to produce a protective cover behind which small game and birds will feel free to live. Food and cover will encourage wildlife to settle on the average farm.

The development of farm woodlots to control erosion, produce cash timber crops or fuel for the farm is an integral phase of the coordinated program. This phase of the program, as does all other phases, dovetails particularly well with the conservation of wildlife. In many cases forestry plantings are being interplanted with vines and shrubs which offer protection to the woodland and at the same time provide food and cover for wildlife. Protection of woodlands from fire and grazing to safeguard timber stands also means that the wildlife which will settle in these farm woodlands will be secure.

It is a recognized fact that clean fence rows encourage erosion since the fence line, unprotected, offers an available channel for runoff water. With the idea of eliminating clean fence-rows to aid in the fight being waged on erosion, technicians of the Service recommend the planting of small growing shrubs to provide vegetative cover. These plantings also have a two-fold value, erosion control and wildlife food and cover.

Gully stabilization and control work requires the planting of grass, shrubs and trees to provide adequate cover to prevent further washing. Since the cover is provided the farmer can take the necessary steps to protect this area and develop it into a wildlife haven. Strip crops on the contour and winter cover crops provide nesting places and food for birds.

Birds become valuable to the farmer by destroying insects which threaten the growing crops. The Soil Conservation Service deals with wildlife conservation merely as one phase of its erosion control program. But the farmers have been quick to realize that the control of erosion can increase wildlife populations on their lands which in future years may become a source of income. For this reason farmers have organized themselves in many areas of Arkansas, Louisiana, and Texas to protect their game from uncontrolled hunting. To this end they are posting their farms against hunters so that unsystematic harvesting of the game crop can be halted. In years to come, if game populations have been sufficiently increased, these farmers can charge a fee for hunting on their land. This will be possible because the farmer will know that there is game on his fields to be taken. Without providing food and cover no farmer can be sure that birds or small game will settle on his farm.

Systematic provision of wildlife food and cover means a step in the right direction--toward preservation of a most vital part of the nation's natural resources. Just as there has been a widespread awakening to the necessity of preserving the rapidly diminishing store of fertile soils there has been a public awakening to the threatened extinction of the nation's game supply.

## DISTRICT WORK PROGRESSES IN ARKANSAS

Early in March Soil Conservation Service technicians were transferred into the nine soil conservation districts in Arkansas that have received approval of their programs and plans of work in signed memorandums of understanding between the district supervisors and the Service. Immediately upon arrival in the districts the technicians conferred with district supervisors and started work on conservation surveys in work priority areas set up by the supervisors. Economic surveys will follow as the second step; this to be followed by farm planning and finally assistance to farmers in establishing actual control practices on the farm.

Crooked Creek District, embracing 385,000 acres located within the counties of Boone, Marion, Searcy and Newton, is the newest district to have its program and work plan approved and a memorandum of understanding entered into and signed by Dr. H. H. Bennett, Washington, D. C., Chief of the Soil Conservation Service. Technical personnel of the Service moved into the district shortly after its approval this month.

Plane table surveys of farms were made by the first technicians to report to districts. Later, aerial photographs of the areas became available, so that physical features of the farms could be transferred to the photographs eliminating actual ground mapping operations.

Regional soil conservationists have been in the Arkansas districts assisting technicians and supervisors in starting work in priority areas.

The nine districts now in operation are Lower East Saline, Mine Creek, East Central Arkansas, Tri-River, Green County-Crowley Ridge, Magazino, Poteau River, Illinois Bayou, and Crooked Creek. All of these in submitting programs and work plans to Washington requested that technical assistance be furnished by the Soil Conservation Service.

Mine Creek: In the Mine Creek district this month technicians of the Service conducted an intensive economic farm survey. This survey is being made to determine if important changes in farming caused by influences other than soils will become apparent under a soil conservation program. Present types of farming, tenure, land use, crop acreages and yields, disposition of crops, average numbers and types of livestock on the farm and their feed needs, and data concerning cropping fertility and erosion control practices are some of the data being analyzed. This information will show the economic needs of the farmers and the likely effect of the introduction of soil conservation practices on the farm economic conditions. When correlated with the data found on the conservation surveys, a complete coordinated program of soil and water conservation based on the physical needs of the soil and taking

into consideration the economic needs of the farmer will be fitted to each farm planned in the district.

Lower East Saline: The first agreement entered into between a district farmer and supervisors in Arkansas was signed in this district on March 1.

Green County-Crowley Ridge: Supervisors have selected three interior watersheds as work priority areas and are directing their first conservation efforts to these selected areas.

Tri-River: Soil surveyors are at work in the district, mapping farms. Three interior watersheds have been selected as work priority areas. One of the watersheds contains approximately 10,000 acres. Farmers in this 10,000 acre area have applied 100 percent for conservation work on their farms.

East Central Arkansas: Three interior watersheds have been tentatively selected by the supervisors as work priority areas. Conservation surveys are being made in the district.

Illinois Bayou: One interior watershed has been selected and approved by the supervisors as a work priority area. Thirty-five of the forty-five farmers have already made applications for work on their farms. Supervisors have tentatively selected six other interior watersheds for work priority.

Magazine: One work priority area has been selected where all of the fourteen farmers in the area have applied for conservation work. The supervisors have selected five other areas tentatively to be worked after the first priority. Mapping is already underway.

Poteau River: Supervisors have selected six tentative work areas for priority. Technicians have started operations.

#### Arkansas District Headquarters

Supervisors of the nine soil conservation districts in operation in Arkansas have established their headquarters at the towns indicated on the following list. Technicians of the Soil Conservation Service designated to coordinate the cooperation being afforded the districts by the Service, known as district leaders, also are listed.

District	Headquarters	SCS Leader
Mine Creek	Nashville	Ernest L. Cowger
Lower East Saline	Monticello	Elston S. Leonard
East Central Arkansas	Searcy	Archie J. Troxell
Poteau River	Waldron	Thomas H. Abboud
Green County-Crowley Ridge	Paragould	Woodrow L. Castleberry
Illinois Bayou	Russellville	Brad Scott
Tri-River	Pocahontas	R. M. Quarterman
Magazine	Booneville	J. Alton Daniel
Crooked Creek	(Yellville (Harrison	Burl E. Thompson Ronald D. Sanstead

SCS-CCC CAMPS JOIN NATIONAL BIRTHDAY CELEBRATION

The 46 Civilian Conservation Corps camps in Region 4 doing soil conservation work under the technical direction of the Soil Conservation Service are joining 1454 other CCC camps in the U. S. to observe the fifth anniversary of the Corps on April 5.

Special programs have been arranged in all of the camps, some to last a day, others three days and some are devoting the week of April 2-8 to "open house" or "visitors' week" observances.

At the present time there are 5,809 farms embracing 1,005,853 acres under agreement with the Service in the camp areas of Region 4.

Cooperating farmers have agreed to devote 196,924 acres to farm woodlands protected from grazing and fire, having converted some 10,945 acres of farm woods to pasture, crop land, hay land or wildlife refuges.

More than 550 acres have been planted to trees to control gullies; control of these gullies has protected 884 acres of cropland; 16,387 acres of pasture and 300 acres of permanent hay land in addition to some farm woodlots. In most instances these gullied areas planted to vegetation provide food and cover for wildlife.

Cooperators also have agreed to retire slopes too steep for profitable cultivation and badly eroded fields or land subject to severe erosion on approximately 602,601 acres, some 38,355 acres of crop land having been retired to pasture. When contract work is finished there will be about 51,924 acres in permanent hay land; 327,967 acres in pasture; and 1,125 acres set aside for wildlife other than woodland.

Contour tillage is practiced on 366,334 acres of cultivated land; strip cropping on 310,610 acres. Approximately 7,228 miles of terraces have been completed, protecting more than half of the 218,361 acres farmers have agreed to terrace in the camp areas. About 3,117,706 square yards of terrace outlets and outlet channels have been seeded or sodded to grass. During the seven month's period from July 1, 1937, to February 1, 1938, a total of 37,081 linear feet of terrace outlet channels were sodded to grass in the Arkansas camp areas; 200,534 in Louisiana and 150,291 feet in Texas. More than 1000 acres have been planted to meadow strips and about 60,000 acres were under winter cover last season. Enrollees last year helped to control about 500 farm woodland fires.

Personnel of the Service will find highly informative articles dealing with the progress of the CCC and the SCS in the March issue of Soil Conservation, which is dedicated to the CCC.

OBSERVATIONAL NOTES ON RHODES GRASS

By

Dennis E. Griffith  
Nursery Manager

R. C. Maudlin  
Jr. Botanist

C. B. Webster  
Regional Nurseryman

Rhodes grass is the principal forage grass now growing on some 20,000 acres of improved pasture on the famous King Ranch in South Texas, and is now being planted on additional acreage. It has been cut successfully for hay, but thrives so well under the careful range management that a reserve hay supply rarely is needed. On an adjacent ranch Rhodes grass seeded in a Johnson grass pasture eliminated the Johnson grass completely in a very few years, and at the same time increased the carrying capacity of the pasture.

Introduced from Africa, and grown successfully in the warmer zones from North Carolina to Southern California, Rhodes grass offers promise as an erosion control plant for meadows and pastures within its range. A perennial, it seeds easily and repeatedly during the growing season behaving like an annual where seeded north of its proven range.

Although having apparent value for soil conservation work, too little is known of the usable range of Rhodes grass to recommend its use in most of the project and camp areas of Region 4. As the first step in determining what its usable range might be in this region, 23 pounds of seed grown near Campbellton, Texas (50 miles south of San Antonio) were planted on March 9, 1937, on 3.8 acres at the San Antonio Soil Conservation Service Nursery.

The planter used was a single disc seeder drill having eight drills, 8 inches apart. The third, fourth, fifth and eighth drills were plugged. Thus, seed was planted in twin rows eight inches apart and 32 inches from the next two rows. This planting method was used to permit cultivation for a few weeks to eradicate undesirable weeds and grasses. The seed were covered about one inch deep and rolled with a steel roller. Top-soil moisture conditions were favorable at planting time. Four days later 0.7 inches of rain fell. The following day a strong northwest wind dried the soil, causing a heavy crust to form. The crust was broken with a homemade spiky roller. By March 30 emergence averaged about one plant per eight linear feet of the twin rows. By May 15 the Rhodes grass had developed almost perfect cover over the field in spite of small rainfall in April and high winds which were very drying to the soil.

The first plants to flower were tagged on June 6, 1937. The first seed crop was harvested by stripper July 30. The yield was 380 pounds of

threshed seed. On August 12 the stand was cut with a grain binder and tied in bundles, the cutting yielding 426 pounds of threshed seed. Dry weather prevailed thereafter until October 13 when it was noted that many new seed heads had formed and some mature seed could be found.

During the following three weeks the grass responded rapidly to improved moisture conditions, causing the development of many new seed heads and the emergence of thousands of new seedlings. The stand continued to grow until November 20 when a minimum temperature of 27 degrees F. scorched most of the seedlings and killed about 50 per cent of the older plants.

In spite of the freeze a third cutting with a binder on November 26 yielded 118 pounds of threshed seed, bringing the total seed harvest for the year to 924 pounds, an average of 243.1 pounds per acre. The first two cuttings averaged 76 per cent germination, and 11.88 fertile florets by weight. There are approximately 1,466,195 fertile florets per pound. Hence approximately five pounds of seed planted per acre should produce a good grass stand under favorable conditions.

#### PASTURE DEVELOPMENT IN EASTERN ARKANSAS

By Edgar A. Hodson, Head Agronomy Section  
Region 4

Our chief interest in pasture development in connection with the Soil Conservation Program is in the establishment of vegetation for erosion control. In developing a program of proper land use it is found to be necessary to revegetate badly eroded areas that have been in cultivation and to supplement the vegetation in other areas where erosion is active. One of the most effective means for controlling erosion in such cases is the establishment of a grass cover. We have found that Bermuda grass is one of the most satisfactory plants that can be used for this purpose.

To illustrate the effectiveness of a grass cover for erosion control, the Soil and Water Conservation Experiment Station at Tyler, Texas, conducted some measurements and found that the average annual soil losses for a period of seven years from a Bermuda grass plot was 240 pounds of soil compared with 47.8 tons from fallowed soil, and 27.9 tons from similar areas in cotton.

We can safely say that soil losses from erosion on a permanent pasture seeded to Bermuda grass is practically zero, while the same land in cultivated crops with the rows running up and down the slope may lose from 20 to 50 tons of soil per acre, and, under such conditions, the entire surface of the soil

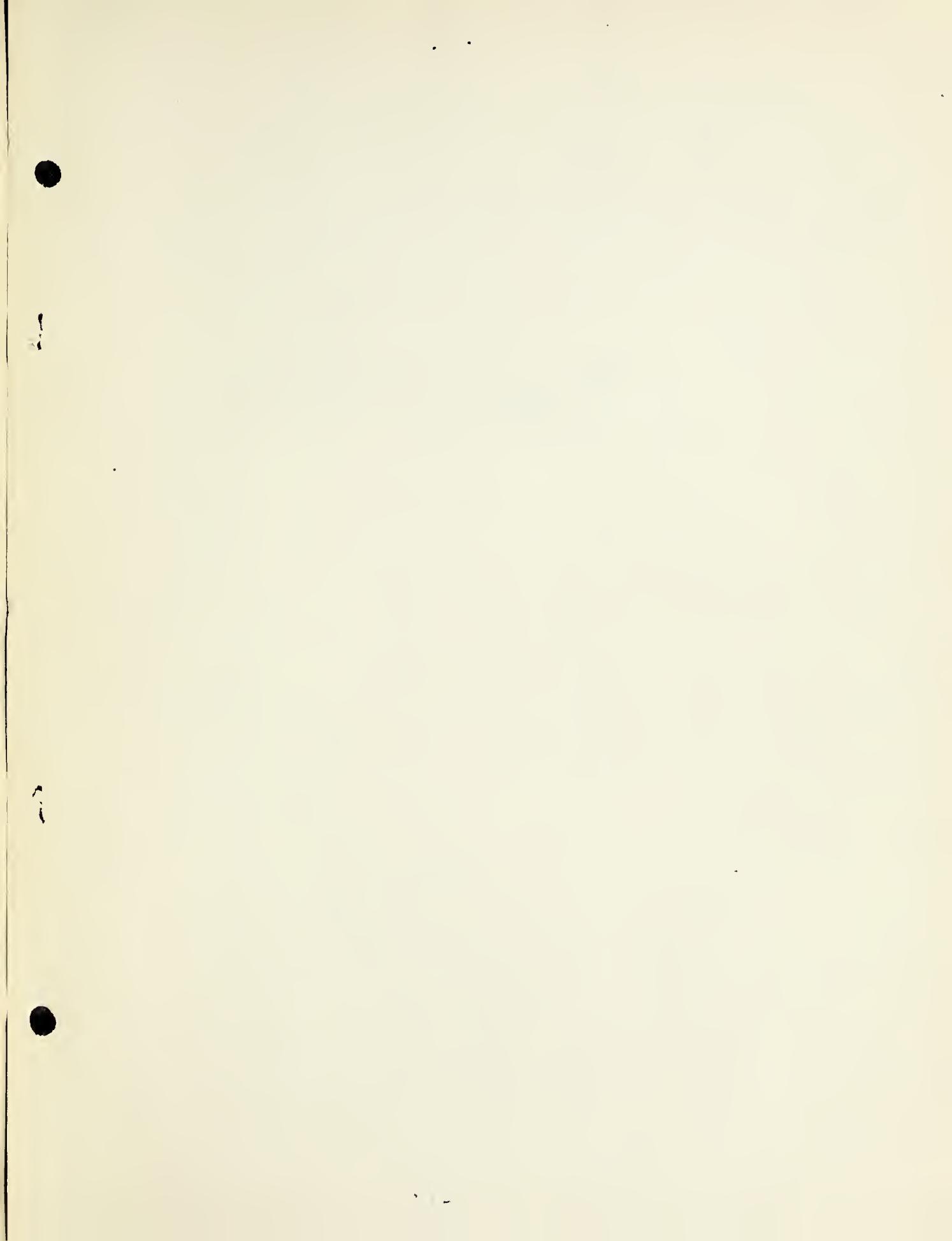
would be lost in a period of 10 to 15 years. Cultivated fields, where no erosion control practices are used, may lose from 15 to 20 times more plant food by erosion than is removed by the growing crops.

Eastern Arkansas has never produced livestock extensively, however, it is possible that with the development of permanent pastures, the livestock program can be expanded greatly. It is imperative, however, that good permanent pastures should be developed before increasing the number of livestock. We have not been accustomed to thinking of pastures as a cash crop in this area, but you will find that the net returns from good pastures will compare favorably with cultivated crops.

Bermuda grass sod can be established in one year where the ground is properly prepared. We have found that it responds to good treatment as readily as any of the cultivated crops. The sod may be scattered broadcast on plowed ground to be harrowed in, or may be dropped in the drill with corn to be cultivated for the first year.

One of the most important problems in developing the pasture program is to extend the grazing season as far into the fall as possible and to provide grazing as early as possible in the spring. Bermuda grass pastures will provide only about 190 days grazing, varying with the period between the last killing frost in the spring and the first killing frost in the fall. One of the best supplements here for any spring grazing is hop clover, which will be found growing on almost all of the uncultivated fields. Hop clover comes up in the fall but does not provide any grazing until the latter part of February. It reseeds and dies about the middle of May. Lespedeza is well adapted to this section and will provide grazing during the latter part of the summer and until frost. Lespedeza is seeded in the spring and after once becoming established will reseed itself. Lespedeza will not maintain itself in a heavy stand of Bermuda sod, and for that reason it may be well to plant Bermuda grass and Lespedeza in alternate strips as is being done in the Pocahontas camp area. White Dutch clover can be produced very successfully in this section of Arkansas and should be included as a pasture supplement where there is sufficient moisture to insure early growth. Dallis grass requires a considerable amount of moisture, therefore would not thrive on the upper slopes or on badly eroded land. The Agricultural Experiment station at Hope, Arkansas, has found that an application of acid phosphate to pasture land will give very profitable returns. The average gain in beef cattle per acre of pasture at the Hope station was 380 pounds on pastures where about 200 pounds of acid phosphate was applied per acre, compared with a gain of only about 190 pounds on similar pasture not fertilized. This increase was due largely to the increased development of supplementary legumes stimulated by the phosphate.

The forage value of Bermuda pastures compares favorably with other pasture grasses, but has the disadvantage of providing limited grazing during any hot dry period in the summer and practically no grazing in the dormant season of the winter. It is important that supplementary feed should be provided for livestock where Bermuda grass pastures are used. It will be necessary, in some cases, to produce temporary summer pastures, using Sudan or other adapted crops, and during the winter legume hay or silage will be needed.



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